Amendments to the Claims:

1.   (Currently Amended) In a Multiple-Input, Multiple-Output communication system in which transmit data is communicated to a receiving station upon a plurality of channels and received as receive data thereat, an improvement of apparatus for facilitating detection at the receiving station of the transmit data responsive to values of the receive data received at the receiving station, said apparatus comprising:

a selector selectably operable to select a metric calculator value ~~(M)~~ for each of at least a selected number of the plurality of channels, the metric calculator values selected for at least two of the selected number of the plurality of channels differing from one another; and

a decoder adapted to receive each metric calculator value selected by said selector and to the values of data, once received at the receiving station, said decoder for separately decoding the values of the receive data received at the receiving station upon each of the at least the selected number of the plurality of channels, the decoding performed separately for the receive data received upon separate ones of the selected number of the channels, at complexity levels responsive to respective metric calculator values selected by said selector.

2.   (Original) The apparatus of claim 1 wherein said decoder comprises a path estimator, said path estimator for estimating the values of the transmit data pursuant to a path-length estimation scheme.

3.   (Original) The apparatus of claim 2 wherein said path estimator performs separate path-length estimations for each of the selected number of channels.

4.   (Original) The apparatus of claim 3 wherein the path-length estimations performed by said path estimator pursuant to the path-length estimation scheme include estimation of path-lengths of at least a selected proportion of possible paths defined by possible values of the transmit data.

5.   (Original) The apparatus of claim 4 wherein the selected proportion of the possible paths of which the estimation of the paths is performed by said path estimator forming said detector is related to the metric calculator value.

6.   (Original) The apparatus of claim 3 wherein said path estimator estimates maximum likelihood paths for each of the selected number of channels.

7.   (Original) The apparatus of claim 6 wherein the maximum likelihood paths formed by said path estimator are formed using a QRD technique upon a selected portion of the possible paths of which the estimation of the paths is performed.

8.   (Original) The apparatus of claim 7 wherein the selected portion is related to the metric calculator value selected by said selector.

9.   (Original) The apparatus of claim 1 wherein the metric calculator values selected by said selector are selected responsive to communication conditions upon the channels.

10.   (Original) The apparatus of claim 9 wherein said selector is further adapted to receive indications of the communication conditions upon the at least the selected number of the plurality of channels, and wherein the metric calculator values are selected responsive to the indications provided to the selector.

11.   (Original) The apparatus of claim 9 wherein the complexity levels at which the decoding is performed by said decoder, responsive to the metric calculator values, is inversely related to the communication conditions such that the complexity levels increase when the communication conditions worsen.

12.   (Original) The apparatus of claim 1 wherein the communication system operates pursuant to an OFDM (Orthogonal Frequency Division Multiplexing) scheme in which channels

are defined upon channel subcarriers and wherein the metric calculator values selected by said selector are representative of communication conditions upon each of the channel subcarriers.

13.   (Original) The apparatus of claim 12 wherein the metric calculator values are maintained at a storage table, and wherein selection made by said selector is of selected ones of the values maintained at the storage table.

14.   (Original) The apparatus of claim 12 wherein the metric calculator values are dynamically selected by said selector.

15.   (Currently Amended) In a method of communicating in a multiple-input, multiple-output communication system in which transmit data is communicated to a receiving station upon a plurality of channels and received as receive data thereat, an improvement of a method for facilitating detection at the receiving station of the transmit data responsive to values of the receive data received at the receiving station, said method comprising:

selecting a metric calculator value for each of at least a selected number of the plurality of channels, the metric calculator values selected for at least two of the selected number of the plurality of channels differing from one another; and

separately decoding values of the receive data received at the receiving station upon each of the at least the selected number of the plurality of channels, the decoding performed separately for the receive data received upon separate ones of the selected number of the plurality of channels, at complexity levels responsive to respective metric calculator values selected during said operation of selecting.

16.   (Original) The method of claim 15 wherein the metric calculator values selected during said operation of selecting are selected responsive to channel conditions of the channels upon which the data is communicated to the receiving station.

17.   (Original) The method of claim 15 wherein said operation of separately decoding comprises performing maximum-likelihood path estimations of at least a selected proportion of possible paths defined by possible values of the transmit data.

18.   (Original) The method of claim 17 wherein the selected proportions is responsive to the metric calculator values.

19.   (Original) The method of claim 15 wherein the metric calculator values selected during said operation of selecting are dynamically selected responsive to channel conditions of the channels upon which the data is communicated.

20.   (Original) The method of claim 15 wherein the communication system utilizes an OFDM communication scheme, wherein the channels are defined upon channel subcarriers and wherein the metric calculator values calculated during said operation of selecting are representative of communication conditions upon each of the channel subcarriers.